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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,689	08/11/2003	Yi-Chen Chang	10870-US-PA	1688

31561 7590 07/17/2006

JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE
7 FLOOR-1, NO. 100
ROOSEVELT ROAD, SECTION 2
TAIPEI, 100
TAIWAN

EXAMINER	
BODDIE, WILLIAM	
ART UNIT	**PAPER NUMBER**
2629	

DATE MAILED: 07/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/604,689	CHANG ET AL.	
	Examiner	Art Unit	
	William Boddie	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/22/06 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-17 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3-4, 6-8, 10-11 and 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Yanagisawa et al. (US 2002/0046887).

With respect to claim 1, Yanagisawa discloses a pixel array (fig. 8 for example) for a non-touch panel input device (fig. 2), wherein the pixel array at least comprises a plurality of first pixel structures (32xi and 32xi+1 in fig. 8) with each pixel structure at least comprising: a sub-pixel (display pixel); and a first shadow pixel (each dot from the

dot array is seen as a shadow pixel) set up in a non-transparent region of the pixel structure (para. 82) positioned on one side of the sub-pixel (clear from fig. 8).

With respect to claim 3, Yanagisawa discloses, the pixel array of claim 1 (see above), wherein the first shadow pixel is set to emit electromagnetic radiation either in a first electromagnetic radiation state or in a second electromagnetic radiation state such that the first and the second electromagnetic radiation states are different from each other (para. 103, disclose that the dot for a "0" can be a different color than the "1" dot, the use of different wavelengths is equivalent to different radiation states).

With respect to claim 4, Yanagisawa discloses, the pixel array of claim 3 (see above), wherein the first shadow pixel in the first electromagnetic radiation state has a length or width different from the first shadow pixel in the second electromagnetic radiation state (para. 102, discloses the use of different widths and/or lengths of dots to encode information).

With respect to claim 6, Yanagisawa discloses, the pixel array of claim 3 (see above), wherein the first electromagnetic radiation state radiates with a wavelength different from the second electromagnetic radiation state (para. 103, disclose that the dot for a "0" can be a different color than the "1" dot).

With respect to claim 7, Yanagisawa discloses, the pixel array of claim 3 (see above), wherein the first electromagnetic radiation state is fabricated using a material different from the second electromagnetic radiation state (para. 103; different colors for 0's and 1's would require different inks in order to radiate different wavelengths of light).

With respect to claim 8, Yanagisawa discloses the pixel array of claim 1 (see above), wherein each first pixel structure furthermore comprises a second shadow pixel positioned on the other side of the sub-pixel (clear from fig. 8, that there are "shadow pixels" (dots) on multiple sides of the display pixel).

With respect to claim 10, Yanagisawa discloses, the pixel array of claim 8 (see above), wherein the second shadow pixel is set to emit electromagnetic radiation either in a third electromagnetic radiation state or in a fourth electromagnetic radiation state such that the third and the fourth electromagnetic radiation states are different from each other (para .103, disclose that the dot for a "0" can be a different color than the "1" dot, the use of different wavelengths is equivalent to different radiation states).

With respect to claim 11, Yanagisawa discloses, the pixel array of claim 10 (see above), wherein the second shadow pixel in the third electromagnetic radiation state has a length or width different from the second shadow pixel in the fourth electromagnetic radiation state (para. 102, discloses the use of different widths and/or lengths of dots to encode information).

With respect to claim 13, Yanagisawa discloses, the pixel array of claim 10 (see above), wherein the third electromagnetic radiation state radiates with a wavelength different from the fourth electromagnetic radiation state (para. 103, discloses that the dot for a "0" can be a different color than the "1" dot).

With respect to claim 14, Yanagisawa discloses, the pixel array of claim 10 (see above), wherein the third electromagnetic radiation state is fabricated using a material different from the fourth electromagnetic radiation state (para. 103; different

colors for 0's and 1's would require different inks in order to radiate different wavelengths of light).

With respect to claim 15, Yanagisawa discloses, the pixel array of claim 1 (see above), wherein the pixel array furthermore comprises a plurality of second pixel structures (32yj, 32yj+1 in fig. 8) with each second pixel structure at least having a sub-pixel without a first shadow pixel (note the lack of y-direction dots in these structures) such that the sub-pixel in each second pixel structure is located in a position corresponding to the sub-pixel of the first pixel structure (seems clear from fig. 8 that the display pixels are located in the same position regardless of dot array used).

With respect to claim 16, Yanagisawa discloses, the pixel array of claim 15 (see above), wherein each second pixel structure furthermore comprises a second shadow pixel (x-direction dots in 32yj, 32yj+1) positioned on the other side of the sub-pixel corresponding to the second shadow pixel in the first pixel structure (56 in fig. 5c).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 2, 5, 9, 12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagisawa et al. (US 6,965,377) in view of Dougherty et al. (US 6,076,734).

With respect to claim 2, Yanagisawa discloses, the pixel array of claim 1 (see above), wherein the first shadow pixel is fabricated using a material capable of producing electromagnetic radiation (para. 82).

Yanagisawa does not expressly disclose, wherein the electromagnetic radiation is in the invisible portion of the light spectrum.

Dougherty discloses encoding data using a material capable of producing electromagnetic radiation in the invisible portion of the light spectrum (note IR1 in figs. 7 and 8, also col. 10, lines 33-45).

Dougherty and Yanagisawa are analogous art because they are both from the same field of endeavor namely, encoding information onto panel displays for sensing by a corresponding sensor.

At the time of the invention it would have been obvious to replace the dot color of Yanagisawa with the infrared color disclosed by Dougherty.

The motivation for doing so would have been to make the dots invisible to the user (Dougherty; col. 5, lines 35-37), thus not distracting the user from the image being displayed.

Therefore it would have been obvious to combine Dougherty with Yanagisawa for the benefit of dot invisibility to obtain the invention as specified in claim 2.

With respect to claim 5, Yanagisawa discloses, the pixel array of claim 3 (see above).

Yanagisawa does not expressly disclose, different reflectivities amongst the two radiation states.

Daugherty discloses, wherein the first electromagnetic radiation state has a reflectivity different from the second electromagnetic radiation state (col. 10, lines 16-32; discloses the measuring of the different reflected intensities of the different colored inks and using this measurement to decode the values).

At the time of the invention it would have been obvious to replace the dot color of Yanagisawa with the infrared color disclosed by Dougherty.

The motivation for doing so would have been to make the dots invisible to the user (Dougherty; col. 5, lines 35-37), thus not distracting the user from the image being displayed.

Therefore it would have been obvious to combine Dougherty with Yanagisawa for the benefit of dot invisibility to obtain the invention as specified in claim 5.

With respect to claim 9, Yanagisawa discloses, the pixel array of claim 8 (see above), wherein the first shadow pixel is fabricated using a material capable of producing electromagnetic radiation (para. 82).

Yanagisawa does not expressly disclose, wherein the electromagnetic radiation is in the invisible portion of the light spectrum.

Dougherty discloses encoding data using a material capable of producing electromagnetic radiation in the invisible portion of the light spectrum (note IR1 in figs. 7 and 8, also col. 10, lines 33-45).

Dougherty and Yanagisawa are analogous art because they are both from the same field of endeavor namely, encoding information onto panel displays for sensing by a corresponding sensor.

At the time of the invention it would have been obvious to replace the dot color of Yanagisawa with the infrared color disclosed by Dougherty.

The motivation for doing so would have been to make the dots invisible to the user (Dougherty; col. 5, lines 35-37), thus not distracting the user from the image being displayed.

Therefore it would have been obvious to combine Dougherty with Yanagisawa for the benefit of dot invisibility to obtain the invention as specified in claim 9.

With respect to claim 12, Yanagisawa discloses, the pixel array of claim 10 (see above).

Yanagisawa does not expressly disclose, different reflectivities amongst the two radiation states.

Daugherty discloses, wherein the third electromagnetic radiation state has a reflectivity different from the fourth electromagnetic radiation state (col. 10, lines 16-32; discloses the measuring of the different reflected intensities of the different colored inks and using this measurement to decode the values).

At the time of the invention it would have been obvious to replace the dot color of Yanagisawa with the infrared color disclosed by Dougherty.

The motivation for doing so would have been to make the dots invisible to the user (Dougherty; col. 5, lines 35-37), thus not distracting the user from the image being displayed.

Therefore it would have been obvious to combine Dougherty with Yanagisawa for the benefit of dot invisibility to obtain the invention as specified in claim 12.

With respect to claim 17, Yanagisawa discloses, the pixel array of claim 16 (see above), wherein the second shadow pixel is fabricated using a material capable of producing electromagnetic radiation (para. 82).

Yanagisawa does not expressly disclose, wherein the electromagnetic radiation is in the invisible portion of the light spectrum.

Dougherty discloses encoding data using a material capable of producing electromagnetic radiation in the invisible portion of the light spectrum (note IR1 in figs. 7 and 8, also col. 10, lines 33-45).

Dougherty and Yanagisawa are analogous art because they are both from the same field of endeavor namely, encoding information onto panel displays for sensing by a corresponding sensor.

At the time of the invention it would have been obvious to replace the dot color of Yanagisawa with the infrared color disclosed by Dougherty.

The motivation for doing so would have been to make the dots invisible to the user (Dougherty; col. 5, lines 35-37), thus not distracting the user from the image being displayed.

Therefore it would have been obvious to combine Dougherty with Yanagisawa for the benefit of dot invisibility to obtain the invention as specified in claim 17.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Will Boddie whose telephone number is (571) 272-0666. The examiner can normally be reached on Monday through Friday, 7:30 - 4:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Wlb
7/6/06

AMR A. AWAD
PRIMARY EXAMINER